Abstract

A local network is interfaced with one or more external network elements via a gateway that implements an address substitution mechanism for ensuring that communications between devices attached to the local network are not routed through an external network as a result of, e.g., disparity in their remotely-assigned Internet protocol (IP) addresses. In accordance with the invention, the gateway is configured to intercept communications from devices on the local network in order to determine remotely-assigned IP address information for those devices. After such information is determined for a given device, the gateway creates a set of address substitution information that includes sub-network compatible addresses for use by other devices on the local network when communicating with the given device. Advantageously, the created address substitution information when utilized by the other devices on the local network to communicate with the given device ensures that such communications are not routed outside the local network regardless of IP address disparity between the devices.